A1

plating liquid supply means for supplying an electroless plating liquid to said hermetically sealed space to perform an electroless plating process.

5. [(AMENDED)] A method or apparatus for plating a substrate according to claim 3, further comprising:

A2

pressure pulsation means for generating a pressure in said hermetically sealed space that is higher than atmospheric pressure and for pulsating said pressure.

6. [(AMENDED)] A method or apparatus for plating a substrate according to claim 3, further comprising a preparation bath disposed in the vicinity of said hermetically sealed space or supplying said minimum amount of prepared electroless plating liquid to said hermetically sealed space just prior to the electroless plating process.

8. [(AMENDED)] A method or apparatus for plating a substrate according to claim 1, wherein said plating liquid used in said electroless plating process or said electroless plating bath comprises copper sulfate ($CuSO_4 \cdot 5H_2O$) having a concentration of 100 to 250 g/l, sulfuric acid (H_2SO_4) having a concentration of 10 to 100 g/l, and chlorine ions having a concentration of 0 to 100 mg/l.

11. [(AMENDED)] A method for plating a substrate according to claim 1, wherein said plating liquid used in said method does not include an alkali metal as a pH regulator.

Kindly add the following new claims:

--12. [(NEW)] An apparatus for plating a substrate according to claim 2, comprising in said electroless plating process or said electroless plating bath:

means for disposing a substrate to be plated in such a state that a surface to be processed thereof faces upwardly, and forming a hermetically sealed space by said surface to be processed; and

plating liquid supply means for supplying an electroless plating liquid to said hermetically sealed space to perform an electroless plating process.

13. [(NEW)] An apparatus for plating a substrate according to claim 12, wherein the minimum amount of electroless plating liquid required for performing a predetermined plating on said substrate to be plated is supplied to said hermetically sealed space, and the electroless plating process is performed with said electroless plating liquid in a static state.

14. [(NEW)] An apparatus for plating a substrate according to claim 12, further comprising:

pressure pulsation means for generating a pressure in said hermetically sealed space that is higher than atmospheric pressure and for pulsating said pressure.

AS cont

15. [(NEW)] An apparatus for plating a substrate according to claim 13, further comprising:

pressure pulsation means for generating a pressure in said hermetically sealed space that is higher than atmospheric pressure and for pulsating said pressure.

16. [(NEW)] An apparatus for plating a substrate according to claim 12, further comprising a preparation bath disposed in the vicinity of said hermetically sealed space for supplying said minimum amount of prepared electroless plating liquid to said hermetically sealed space just prior to the electroless plating process.

17. [(NEW)] An apparatus for plating a substrate according to claim 13, further comprising a preparation bath disposed in the vicinity of said hermetically sealed space for supplying said minimum amount of prepared electroless plating liquid to said

hermetically sealed space just prior to the electroless plating process.

18. [(NEW)] An apparatus for plating a substrate according to claim 14, further comprising a preparation bath disposed in the vicinity of said hermetically sealed space for supplying said minimum amount of prepared electroless plating liquid to said hermetically sealed space just prior to the electroless plating process.

19. [(NEW)] An apparatus for plating a substrate according to claim 16, wherein said electroless plating liquid is processed as a waste liquid without circulating said electroless plating liquid after performing the electroless plating process with said minimum amount of electroless plating liquid.

20. [(NEW)] An method or apparatus for plating a substrate according to claim 2, wherein said plating liquid used in said electroless plating process or said electroless plating bath comprises copper sulfate ($CuSO_4 \cdot 5H_20$) having a concentration of 100 to 250 g/l, sulfuric acid (H_2SO_4) having a concentration of 10 to 100 g/l, and chlorine ions having a concentration of 0 to 100 mg/l.

21 [(NEW)] An method for plating a substrate according to claim 20, wherein said electrolytic plating liquid further comprises at least 0.14 to 70 μmol/l of a sulfur compound expressed by a formula in [A] below, 10 to 5000 mg/l of a macromolecular compound expressed in a formula [B] below, and 0.01 and 100 mg/l of a nitrogen compound;

AS cont

wherein L is an alkyl group having a carbon number of 1 to 6 which is substituted by a lower alkyl group, a lower alkoxyl group, a hydroxyl group, or a halogen atom; and X is a hydrogen atom, a $-SO_3M$ group, a or a $-PO_3M$ group (M indicating a hydrogen atom, an alkali metal atom, or an amino group) in the formula [A]; and

R1 indicates a residue of a higher alcohol group having a carbon number of 8 to 25, a residue of an alkyl phenol with an alkyl group having a carbon number of 1 to 25, a residue of an alkyl napthol with an alkyl group having a carbon number of 1 to 25, a residue of a fatty acide amide having a carbon number of 3 to 22, a residue of an alklamine having a carbon number of 2 to 4, or a hydroxyl group; R2 and R3 indicate a hydrogen atom or a methyl group; and m and k indicate an integer from 1 to 100 in the formula [B].

$$X\text{-}L\text{-}(S)_n\text{-}L\text{-}X \qquad [A]$$

$$R_1\text{-}(CH_2\underset{\displaystyle R_2}{\underset{|}{C}}HO)_m\text{-}(CH_2\underset{\displaystyle R_3}{\underset{|}{C}}HO)_k\text{-}H \qquad [B]$$

22 [(NEW)] An apparatus for plating a substrate according to claim 2, wherein said plating liquid used in said apparatus does not include an alkali metal as a pH regulator.

23[. (NEW)] An apparatus for plating a substrate according to claim 10, wherein said plating liquid used in said apparatus does not include an alkali metal as a pH regulator. --